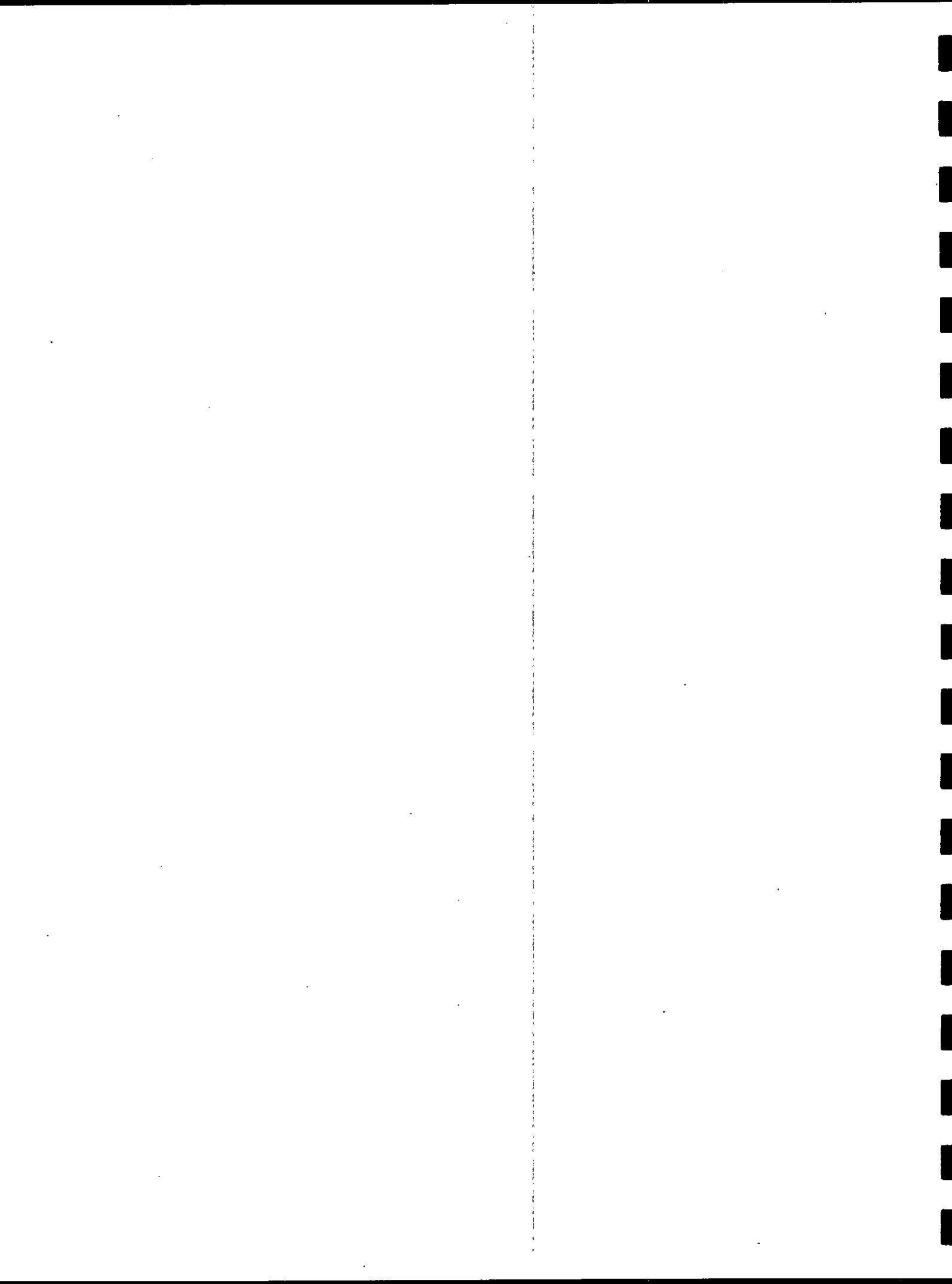


II.

**DEVELOPED
HYDROELECTRIC
SITES**



II. DEVELOPED HYDROELECTRIC SITES

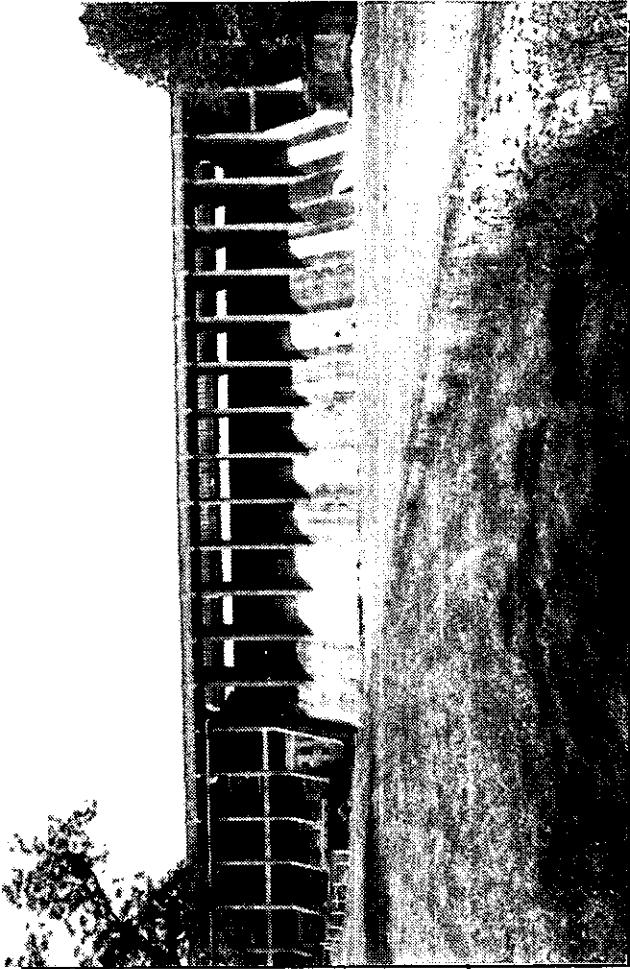
The fact sheets in this chapter are for Maryland dams at which hydroelectric projects have been developed or for which a license/exemption application has been submitted to the Federal Energy Regulatory Commission (FERC, 1982). Two types of fact sheets are provided for each dam. The first fact sheet gives information on the physical characteristics of the dam and its associated impoundment. The second fact sheet provides information pertinent to hydropower generation and includes information on the following:

- The hydroelectric developer and magnitude of energy generation at the facility
- Dam intake structures and their relation to hydroelectric generation
- Average annual water flow, any required minimum flow releases, and the nearest U.S. Geological Survey (USGS) gaging stations
- Upstream and downstream watershed usage
- Availability of data on water quality and aquatic biota in the vicinity of the dam.

The estimates of energy generation were obtained from documents submitted to FERC by the developers or from interviews with personnel familiar with the facilities' operations. The description of upstream and downstream watershed usage identifies diversions for water supply, other dams located upstream and downstream, and recreational resources in the vicinity of the dam.

IDENTIFICATION		NUMBER 4
DAM NAME	Deep Creek	
POPULAR NAME		
IMPOUNDMENT NAME	Deep Creek Lake	
OWNER	Pennsylvania Electric Company	
WRA PERMITS	00 OB 0004	
DESCRIPTION	TYPE	
HEIGHT (ft)	DRAINAGE (mi ²)	YEAR
85	64.7	1925
PURPOSE		
	Hydropower Recreation	
CREST LENGTH(ft)	HAZARD CLASS	
1,300	High	
APPURTENANCES	TYPE	
WIDTH (ft)	UNCONTROLLED	
800	DISCHARGE (cfs)	
	65,570	
EMERGENCY SPILLWAY	Overflow side channel	
REMARKS		
FERC 5-year Safety Inspection Reports (latest by Harza Engineering Co., September, 1981)		

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION	
Developer: Pennsylvania Electric Co.	Required Minimum Release (cfs): None at present	Plant Capacity (kw): 20000	Annual Generation (MWh): 29000		
FERC Docket No.: 2370	Nearest USGS Gaging Station(s): None in vicinity	Mode of Operation: Daily peaking (with seasonal drawdown of reservoir)			
Permit/License: License issued 1968; numerous orders and amendments issued subsequently.	Average Annual Flow (cfs): 75	Purchaser of Power: Pennsylvania Electric Co.			
UPSTREAM WATERSHED USAGE		DOWNSTREAM WATERSHED USAGE			
		Water Supply: Oakland Water Treatment Plant	Parks/Recreation: Swallow Falls State Park, Herrington Manor State Park, Mt. Nebo Wildlife Management Area		
Parks/Recreation: Deep Creek Lake State Park, hunting, swimming, fish stocking (including trout, walleye, Northern pike), Thayer State Game Refuge, boat launching facilities					
STRUCTURAL INFORMATION		AVAILABLE LITERATURE			
Existing Water Intake Facilities: Gated intake channel located at west side of dam connects to a 9-ft-diameter penstock 2 miles long which leads to powerhouse.		M.D.OEP maintains data from sampling station DPR0005. Campbell, 1984.			
Existing Overflow Structure: Gated intake channel also leads to a concrete spillway 300 ft long located adjacent to the west abutment of dam.		Davis et al., 1982.			



IDENTIFICATION	NUMBER
DAM NAME	Brighton
POPULAR NAME	
IMPOUNDMENT NAME	Triadelphia Reservoir
OWNER	Washington Suburban Sanitary Commission
WRA PERMITS	41 OB 0001
DESCRIPTION	TYPE
HEIGHT (m)	DRAINAGE (mi ²)
80	77.3
	YEAR
	1943
PURPOSE	
Water Supply	
Recreation	
CREST LENGTH(m)	HAZARD CLASS
995	High
APPURTENANCES	TYPE
WIDTH (m)	DISCHARGE (cfs)
260	83,000
EMERGENCY SPILLWAY	Overflow
REMARKS	Phase II stability by Burns & McDonnell, September 1977

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION	
<u>Developer:</u> Alternative Energy Assoc.	<u>Required Minimum Release (cfs):</u> 7.5	<u>Nearest USGS Gaging Station(s):</u> 01591610 (just downstream from dam); 01591000 (approx. 5.8 miles upstream; tributaries enter between station and dam)	<u>Plant Capacity (kw):</u> 480	<u>Annual Generation (MWh):</u> 2685	<u>Mode of Operation:</u> Daily peaking (with seasonal storage determined by WSSC)
<u>FERC Docket No.:</u> 3633	<u>Average Annual Flow (cfs):</u> 58	<u>Purchaser of Power:</u> Baltimore Gas and Electric Co.			
UPSTREAM WATERSHED USAGE		DOWNSTREAM WATERSHED USAGE			
<u>Permit/License:</u> License issued 1984	<u>Date Operational:</u> Under construction (previously retired in 1969)	<u>Parks/Recreation:</u> unnamed park surrounding Triadelphia Reservoir, Azalea Gardens, boat launching facilities, hunting, fish stocking (including walleye, striped bass), Patuxent State Park	<u>Water supply:</u> Montgomery and Prince Georges Counties (WSSC)	<u>Parks/Recreation:</u> Unnamed park surrounding Triadelphia Reservoir, Patuxent River Park	<u>Dams:</u> Rocky George Dam (MD #20)
STRUCTURAL INFORMATION			AVAILABLE LITERATURE		
<u>Existing Water Intake Facilities:</u> Concrete riser tower with six sluice gates, 2 each at 309, 323, and 350 ft msl, leads to two 30-ft-diameter penstocks which connect to a powerhouse located on west side of dam; two needle valves at the end of penstocks control water releases.	<u>Existing Overflow Structure:</u> Concrete spillway controlled by thirteen parallel 15- x 18-ft tainter gates located at center of dam; releases are also possible via five silt valves located on upstream face of dam.	<u>MD OEP maintains data from sampling stations PXT0890, and PXT0972.</u>	<u>Acres American, Inc., 1979a.</u>	<u>Morgan, 1983.</u>	<u>Regional Planning Council, 1980.</u>
					<u>Enamait and Davis, 1982.</u>

IDENTIFICATION

NUMBER 14

DAM NAME Savage River

POPULAR NAME Savage Reservoir

IMPOUNDMENT NAME Savage River Reservoir

OWNER Upper Potomac River Commission

WRA PERMITS 40 OB 0002

DESCRIPTION

TYPE Earth, rockfill

HEIGHT (ft) 184 DRAINAGE (mi²) 105 YEAR 1952**PURPOSE**Flood Control
Recreation
Low Flow Augmentation

CREST LENGTH(ft)

HAZARD CLASS

1,050 High

IMPOUNDING CHARACTERISTICS

NORMAL DEPTH (ft)	SURFACE AREA (acres)
151.3	360
CAPACITY	MAXIMUM
NORMAL	
20,000	31,800

LOCATION

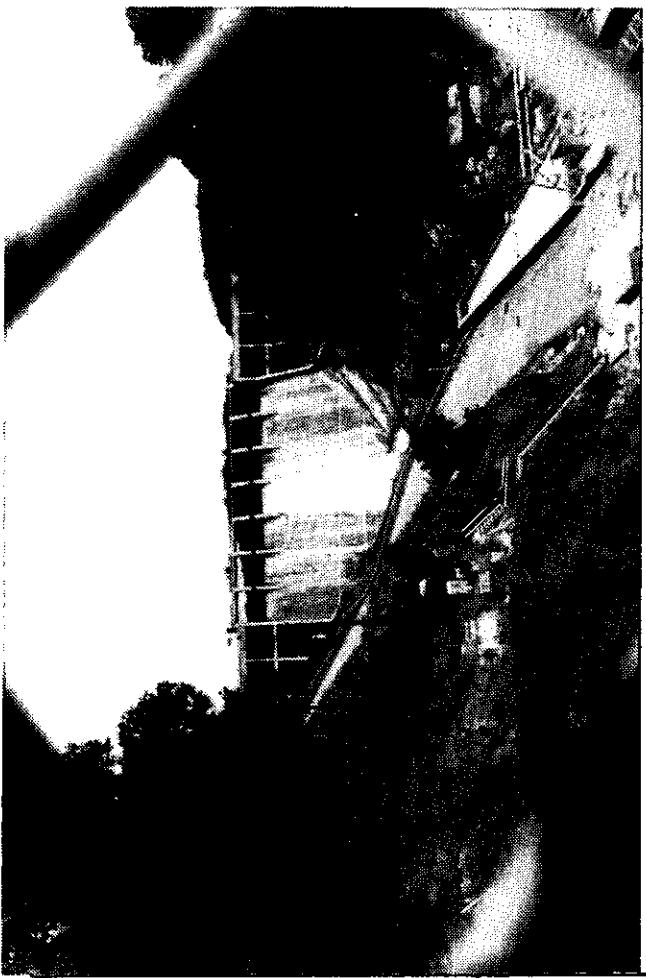
LOCATION	COUNTY	GARRETT
LATITUDE	3930.4	LONGITUDE 7907.9
NORTH GRID	617000	EAST GRID 198000
RIVER/STREAM	Savage River	
QUAD MAP	Bittinger	BASIN 02141006

REMARKS

Recommendations for operation of the Savage River Reservoir by Maryland DNR.

5-Year Safety Inspection Reports by Corps of Engineers; latest in February 1977; only annual operation and maintenance inspections since then.

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION	
<u>Developer:</u> Reed Hydroelectric Corp.		<u>Required Minimum Release (cfs):</u> 20		<u>Plant Capacity (kw):</u> 2000	
<u>FERC Docket No.:</u> 3856		<u>Nearest USGS Gaging Station(s):</u> 01597500 (approx. 0.7 miles downstream); 01596500 (approx. 5.6 miles upstream)		<u>Annual Generation (MWh):</u> 9680	
<u>Permit/License:</u> Preliminary permit granted 1981; license exemption pending		<u>Average Annual Flow (cfs):</u> 165		<u>Mode of Operation:</u> Run-of-river (flow controlled by USCOE)	
<u>Date Operational:</u> License exemption pending		<u>Comments:</u> 93 cfs is required at USGS station 01598500 from Savage River and Bloomington Dams			
UPSTREAM WATERSHED USAGE		DOWNSTREAM WATERSHED USAGE			
		<u>Parks/Recreation:</u> Savage River State Forest, Big Run State Park, camping, fishing, boat launching facilities, fish stocking (including walleye, trout)	<u>Water supply:</u> Town of Westernport (at dam), City of Piedmont (WVA), Bloomington Improvement Association Inc.		
			<u>Parks/Recreation:</u> Big Savage Mountain State Wildland, Annual U.S. Kayak Championships, Whitewater Canoe Camping Area, Savage River Bridge Camping Area, fish stocking (including trout)		
STRUCTURAL INFORMATION		AVAILABLE LITERATURE			
		<u>Existing Water Intake Facilities:</u> A submerged concrete structure 27 ft high near west abutment connects to a 10-ft-diameter tunnel which bifurcates into two conduits within the dam. At the point of bifurcation, each conduit has 4- x 10-ft slide gates; there are also 2.5- and 0.67-ft-diameter lines which allow supplemental discharges, and a 1.5-ft-diameter supply pipe to the city of Westernport			
<u>Existing Overflow Structure:</u> Ungated spillway at east abutment of dam.					



IDENTIFICATION	NUMBER
DAM NAME	Rocky Gorge
POPULAR NAME	T. Howard Duckett Dam
IMPOUNDMENT NAME	T. Howard Duckett Reservoir
OWNER	Washington Suburban Sanitary Commission
WRA PERMITS	52 CB 0002
DESCRIPTION	TYPE
HEIGHT (m)	DRAINAGE (m²)
1.34	132
YEAR	
	1953
PURPOSE	
Water Supply Recreation	
CREST LENGTH(m)	HAZARD CLASS
840	High
APPURTENANCES	TYPE
WIDTH (m)	DISCHARGE (cfs)
1.90	65,200
EMERGENCY SPILLWAY	Overflow
REMARKS	Phase II stability by Burns & McDonnell, September 1977

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION						
<u>Developer:</u> American Hydro Power Co.	<u>Required Minimum Release (cfs):</u> 16			<u>Plant Capacity (kW):</u> 125						
<u>FERC Docket No.:</u> 6596				<u>Annual Generation (Mwh):</u> 1090						
<u>Permit/License:</u> License exemption issued in 1982	<u>Nearest USGS Gaging Station(s):</u> (approx. 600 ft downstream)	<u>Average Annual Flow (cfs):</u> 01592500 reservoir; 75 released from dam	<u>Mode of Operation:</u> Continuous use of minimum release flow	<u>Purchaser of Power:</u> WSSC (on site); Baltimore Gas and Electric Co.						
UPSTREAM WATERSHED USAGE		DOWNSTREAM WATERSHED USAGE								
		<u>Parks/Recreation:</u> Park surrounding Rocky Gorge Reservoir, Fish stocking (including striped bass hybrids, walleye)	<u>Water supply:</u> WSSC for Montgomery and Prince George's Counties (at dam), Brandywine Sand and Gravel Co., Annapolis Sand and Gravel Co.							
			<u>Parks/Recreation:</u> Patuxent River Park, Montpelier Park, Patuxent Fish and Wildlife Refuge							
STRUCTURAL INFORMATION			AVAILABLE LITERATURE							
<u>Existing Water Intake Facilities:</u>	Gated intakes in riser tower just upstream of dam lead to water supply pumping station below dam; a gated pipe used for minimum flow releases goes through the dam and will provide water for turbine operations.									
	MD OEP maintains data from sampling stations PXT0771, PXT0809, PXT0820.									
	Regional Planning Council, 1980.									
	U.S. Environmental Protection Agency, 1983.									
<u>Existing Overflow Structure:</u>	Concrete spillway controlled by seven parallel 15- x 27-ft tainter gates located in center of dam.									

IDENTIFICATION	NUMBER	69
DAM NAME	Bloomington	
POPULAR NAME	Bloomington Lake	
IMPOUNDMENT NAME		
OWNER	U.S. Army Corps of Engineers	
WRA PERMITS		
DESCRIPTION	TYPE	Earth and rockfill
HEIGHT (m)	DRAINAGE (mi ²)	YEAR 1980
2.96	287	
PURPOSE		
Water Quality		
Low Flow Augmentation		
Water Supply		
Recreation		
CREST LENGTH(m)	HAZARD CLASS	
2,130	High	
APPURTENANCES	TYPE	Controlled
WIDTH (m)	DISCHARGE (cfs)	
210	193,000	
EMERGENCY SPILLWAY	Overflow	
REMARKS		
IMPOUNDING CHARACTERISTICS		
NORMAL DEPTH (m)	SURFACE AREA (acres)	
282	952	
CAPACITY	MAXIMUM	
NORMAL	94,700	
	130,900	
LOCATION	COUNTY	Garrett
LATITUDE	3924.1	
NORTH GRID	580000	
RIVER/STREAM	North Branch of Potomac River	
QUAD MAP	Westernport	BASIN 02141005

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION	
<u>Developer:</u>	City of Westernport	<u>Required Minimum Release (cfs)</u> : 50 (maintained by USCOE)		<u>Plant Capacity (kw)</u> : 13846	
<u>FERC Docket No.:</u>	4506	<u>Nearest USGS Gaging Station(s)</u> : 01596000 (approx. 4 miles downstream); 015955000 (approx. 9 miles upstream)		<u>Annual Generation (MWh)</u> : 55000	<u>Mode of Operation:</u> Run-of-river (releases controlled by USCOE)
UPSTREAM WATERSHED USAGE					DOWNSTREAM WATERSHED USAGE
<u>Date Operational:</u>	Construction pending	<u>Comments:</u> 93 cfs is required at USGS station 01598500 from Bloomington and Savage River Dams		<u>Purchaser of Power:</u> Virginia Electric Power Co.	
STRUCTURAL INFORMATION					
<u>Existing Water Intake Facilities:</u>	Ten intake ports at 5 levels (1342, 1375, 1400, 1426, and 1449 ft msl) located in a concrete tower near south abutment of dam lead to a 16.3-ft-diameter concrete tunnel through dam; two 2- x 3-ft gates in tower control rate of water releases through tunnel and four additional gates also located in tower are used primarily for flood condition releases.	<u>Water supply:</u> Westvaco Corp, Masteller Coal Co. (WVA) <u>Parks/Recreation:</u> fish stocking (including trout) <u>Dams:</u> Westvaco (MD #292)			
AVAILABLE LITERATURE					
<u>Existing Overflow Structure:</u>	Spillway 210 ft long with five 32- x 42-ft tainter gates.	MD OEP maintains data from sampling stations NBP0514, NBP0534, NBP0597, NBP0689, and NBP0103. USGS maintains data from water quality stations 01595500 and 01595800. Hendricks et al., 1982. Rasin and Brooks, 1982. Stauffer and Fuller, 1983. Flynn and Mason, 1978. Skelly and Loy, 1977.			

**IDENTIFICATION**

NUMBER 78

DAM NAME Potomac River Dam #4

POPULAR NAME

IMPOUNDMENT NAME Potomac River

OWNER National Park Service

WRA PERMITS 00 OB 0019

DESCRIPTION

TYPE Gravity

HEIGHT (ft) 20 DRAINAGE (mi²) 5,900 YEAR 1869PURPOSE
Hydropower
Recreation**APPURTENANCES**

TYPE Uncontrolled

WIDTH (ft) 715

DISCHARGE (cfs)

1,000,000*

EMERGENCY SPILLWAY Overflow

HAZARD CLASS
Low

II-12

IMPOUNDING CHARACTERISTICS

NORMAL DEPTH (ft) 7

SURFACE AREA (acres)
675*CAPACITY
NORMAL

MAXIMUM

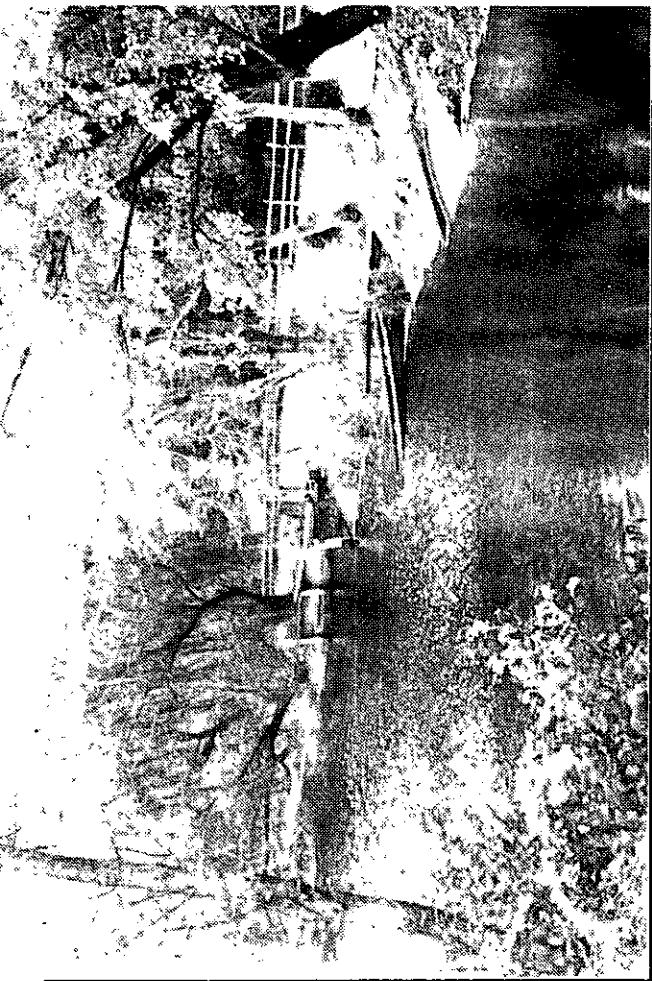
7,300*

111,600*

LOCATION
COUNTY Washington
LATITUDE 3929.7
LONGITUDE 7749.5
NORTH GRID 606000
EAST GRID 566000
RIVER/STREAM Potomac River
QUAD MAP Shepherdstown BASIN 02140501**REMARKS**

*Run of river dam; items estimated

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION	
<u>Developer:</u>	Potomac Edison Co.	<u>Required Minimum Release (cfs):</u> None at present		<u>Plant Capacity (kW):</u> 1000	
<u>FERC Rocket No.:</u>	2516			<u>Annual Generation (MWh):</u> 4338	
<u>Permit/License:</u> Current license issued 1965		<u>Nearest USGS Gaging Station(s):</u> (approx. 11 miles downstream)	01618000	<u>Mode of Operation:</u> Run-of-river	
<u>Date Operational:</u> Early 1900's			<u>Average Annual Flow (cfs):</u> 6096	<u>Purchaser of Power:</u> Potomac Edison Co.	
UPSTREAM WATERSHED USAGE			DOWNSTREAM WATERSHED USAGE		
<u>Water Supply:</u> Martin Marietta Corp., Kinash Co., Potomac Edison Co.			<u>Water Supply:</u> Shepherdstown Water Works, Washington County Sanitary District		
<u>Parks/Recreation:</u>	C&O National Historic Park		<u>Parks/Recreation:</u> C&O National Historic Park, camping, boat launching facilities		
<u>Dams:</u>	Potomac #5 (MD #138), Williamsport (#119)		<u>Dams:</u> Potomac #3 (MD #137)		
STRUCTURAL INFORMATION			AVAILABLE LITERATURE		
<u>Existing Water Intake Facilities:</u>	Headrace about 200 ft long leads to powerhouse on south side of dam; 11 5- x 7-ft submerged openings for withdrawing water located at beginning of headrace.		<u>MD OEP maintains data from sampling stations P011830 and P012386.</u> <u>USGS maintains data from water quality station 01618000.</u>		
<u>Existing Overflow Structure:</u>	Ungated spillway spans entire dam.		<u>Davis and Enamait, 1982.</u> <u>Edmonds, Maser, and Simons, 1983.</u> <u>Martin Marietta Corporation, 1981.</u> <u>Rasin and Brooks, 1982.</u> <u>Vannote and Sweeney, 1985.</u>		

**IDENTIFICATION**

NUMBER 85

DAM NAME Parker Pond

POPULAR NAME**IMPOUNDMENT NAME**

OWNER Wise H. Hinman

WRA PERMITS 57 OB 0004

DESCRIPTION

TYPE Earth

HEIGHT (ft) 13 DRAINAGE (mi²) 9.3

YEAR 1956

PURPOSERecreation
Hydroelectric**CREST LENGTH(ft)**

HAZARD CLASS

350

Low

IMPOUNDING CHARACTERISTICS

NORMAL DEPTH (ft) 10.4

SURFACE AREA (acres) 41.5

CAPACITY NORMAL

MAXIMUM

130

245

LOCATION

COUNTY Wicomico

APPURTENANCES

TYPE Controlled

WIDTH (ft) 15

DISCHARGE (cfs) 350

LATITUDE 3820.8

LONGITUDE 7532.9

EMERGENCY SPILLWAY Overflow

NORTH GRID 192000

EAST GRID 1218000

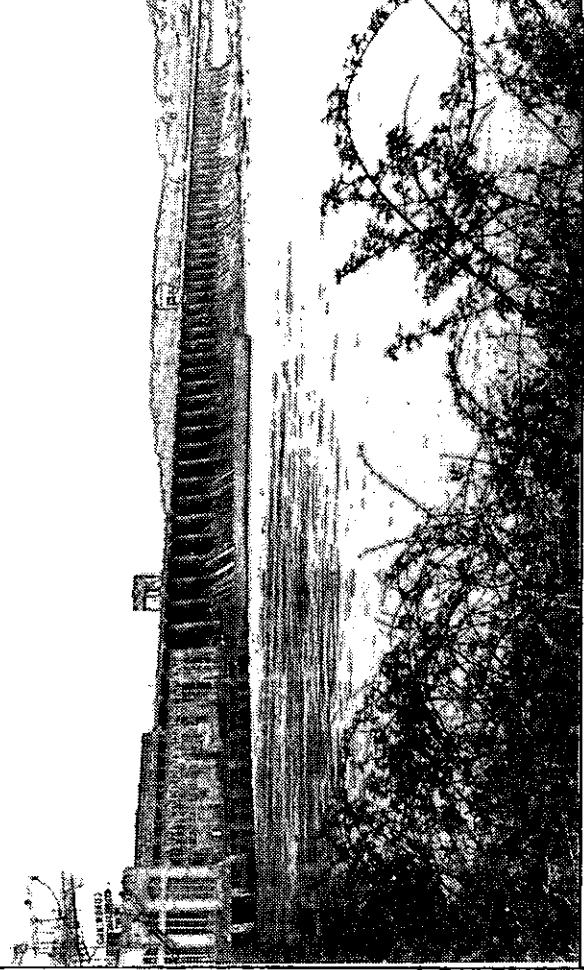
RIVER/STREAM Beaverdam Creek

QUAD MAP Salisbury BASIN 02130301

REMARKS

Phase I Dam Inspection by State of Maryland, August 1978

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION	
<u>Developer:</u>	Wise H. Hinman	<u>Required Minimum Flow Release (cfs) at present</u>	None	<u>Plant Capacity (kW)</u> :	40
<u>FERC Docket No.:</u>	None	<u>Annual Generation (MWh)</u> :	Not available	<u>Mode of Operation:</u>	Run-of-river
<u>Permit/License:</u>	Unlicensed	<u>Nearest USGS Gauging Station(s):</u>	014865000 (approx. 1.5 miles downstream; Walston Branch enters between station and dam)	<u>Purchaser of Power:</u>	Used on site for private residence
<u>Date Operational:</u>	1950's	<u>Average Annual Flow (cfs):</u> 11.4			
UPSTREAM WATERSHED USAGE		DOWNSTREAM WATERSHED USAGE			
<u>Parks/Recreation:</u> Boat launching facilities, fishing		<u>Parks/Recreation:</u>	Schumaker Park, Salisbury Municipal Zoo Park		
		<u>Dams:</u>	Beaglin Park (Schumaker Pond) (MD #132)		
STRUCTURAL INFORMATION			AVAILABLE LITERATURE		
<u>Existing Water Intake Facilities:</u> Concrete tunnel about 12 ft in length goes under west side of dam and leads to powerhouse; three gates are located on upstream face of tunnel.			MD OEP maintains data from sampling stations BVM0008, BVM0013, BVM0015, BVM0024, BVM0040, and BVM0049.		
<u>Existing Overflow Structure:</u> Concrete flume with three sluice gates at upstream face goes under center of the dam.					



IDENTIFICATION	NUMBER	97
DAM NAME	Conowingo	
POPULAR NAME		
IMPOUNDMENT NAME	Susquehanna River	
OWNER	Philadelphia Electric Company	
WRA PERMITS	00 OB 0032	
DESCRIPTION	TYPE	Gravity
HEIGHT (m)	DRAINAGE (mi ²)	YEAR
105	27,000	1928
PURPOSE		
Hydroelectric		
Recreation		
Water Supply		
CREST LENGTH(m)	HAZARD CLASS	
4,644	High	
APPURTENANCES	TYPE	Controlled
WIDTH (m)	DISCHARGE (cfs)	
2385	1,170,000	
EMERGENCY SPILLWAY	Overflow	
REMARKS	Extensive repairs in 1978 to satisfy stability requirements. FERC 5-Year Safety Inspection Reports (latest by Chas. T. Main Co., June 1982)	

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION	
<u>Developer:</u> Philadelphia Electric Co.	<u>Required Minimum Release (cfs):</u> April through 15-September	<u>Plant Capacity (kW):</u> 5000 (15-	<u>Annual Generation (MWh):</u> 1738000	<u>Purchaser of Power:</u> Philadelphia Electric Co.	
<u>FERC Docket No.:</u> 405				<u>Mode of Operation:</u> Daily peaking	
<u>Permit/License:</u> Major license issued 1926; relicensed 1980	<u>Nearest USGS Gaging Station(s):</u> 01578310 (at dam)				
<u>Date Operational:</u> 1926	<u>Average Annual Flow (cfs):</u> 44,820				
UPSTREAM WATERSHED USAGE		DOWNSTREAM WATERSHED USAGE		AVAILABLE LITERATURE	
<u>Water supply:</u> City of Baltimore (auxiliary source), Peach Bottom Atomic Power Station		<u>Water supply:</u> Town of Port Deposit, City of Havre de Grace, Veterans Administration		<u>Numerous studies have been conducted on the natural resources and water quality at Conowingo Dam; most are summarized in FERC Relicensing Proceedings (Docket No. 405).</u>	
<u>Parks/Recreation:</u> Girl Scout Camp Conowingo, Girl Scout Camp Shadowbrook, boat launching facilities, fishing		<u>Parks/Recreation:</u> Susquehanna State Park, boat launching facilities			
<u>Dams:</u> Holtwood, Safe Harbor, Yorkhaven (all in PA)					
STRUCTURAL INFORMATION					
<u>Existing Water Intake Facilities:</u> Eleven gated intake towers on upstream face of dam each lead to turbines located in dam.		<u>Existing Overflow Structure:</u> Spillway 2385 ft long consists of 3 regulating gates which span 135 ft and 50 crest gates which span 2250 ft for controlling water releases.			



IDENTIFICATION NUMBER 122

DAM NAME Gilpin Falls

POPULAR NAME

IMPOUNDMENT NAME

OWNER Paul Shirk

WRA PERMITS 82 MR 0301

DESCRIPTION TYPE Gravity

HEIGHT (ft) 6 DRAINAGE (mi²) 22.6 YEAR 1735

PURPOSE Hydropower

CREST LENGTH (ft) 161 HAZARD CLASS Low

IMPOUNDING CHARACTERISTICS

NORMAL DEPTH (ft)	SURFACE AREA (acres)
6	2.8 *
CAPACITY NORMAL	MAXIMUM
8*	8*

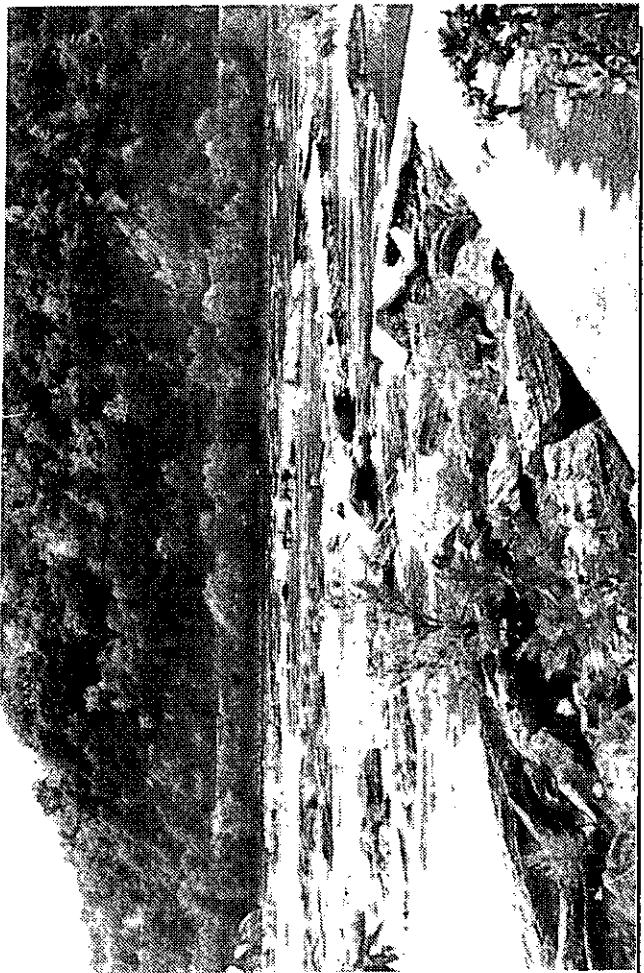
LOCATION	COUNTY	Cecil
LATITUDE	3938.9	LONGITUDE 7657.3
NORTH GRID	663000	EAST GRID 1094000
RIVER/STREAM	Northeast Creek	
QUAD MAP	Bay View	BASIN 02130608

REMARKS

Reconstruction in 1984 associated with hydropower development

*Run of river dam; items estimated.

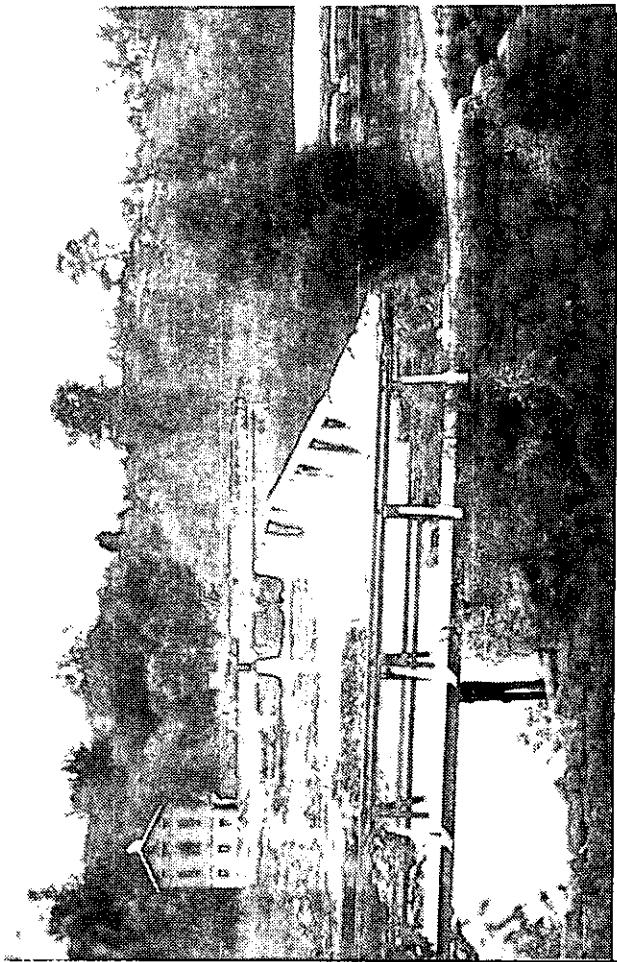
DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION			
<u>Developer:</u>	American Hydro Power Co.	<u>Required Minimum Release (cfs):</u>	4 at confluence of tailrace and Northeast Creek including 1 over dam	<u>Plant Capacity (kW):</u>	396		
<u>FERC Docket No.:</u>	3705	<u>Nearest USGS Gaging Station(s):</u>	01496000 (approx. 1.6 miles downstream)	<u>Annual Generation (MWh):</u>	2700		
<u>Permit/License:</u>	License exemption issued 1982	<u>Average Annual Flow (cfs):</u>	36	<u>Mode of Operation:</u>	Daily peaking (up to a 12-in. drawdown)		
<u>Date Operational:</u>	1984 (retired site from early 1900's)	<u>Comments:</u> Hydraulic head created by vertical drop at the Falls			<u>Purchaser of Power:</u> Conowingo Power Co., Philadelphia Electric Co.		
UPSTREAM WATERSHED USAGE			DOWNSTREAM WATERSHED USAGE				
			<u>Water supply:</u>	Town of North East			
STRUCTURAL INFORMATION			AVAILABLE LITERATURE				
<u>Existing Water Intake Facilities:</u>	a 3-ft-diameter penstock about 1200 ft in length leads from gated intake at east abutment of dam to powerhouse below Gilpin Falls; intake withdraws water from entire depth profile of impoundment.		MD OEP maintains data from sampling stations NOC0031 and NOC0009.				
<u>Existing Overflow Structure:</u>	Ungated spillway 73 ft in length at west end of dam; remainder of dam is 1 ft higher than spillway.						



IDENTIFICATION		NUMBER	137		
DAM NAME	Potomac River Dam #3				
POPULAR NAME	Harpers Ferry				
IMPOUNDMENT NAME	Potomac River				
OWNER	Potomac Edison Co. of West Virginia				
WRA PERMITS					
DESCRIPTION	TYPE	Concrete capped timber and stone			
HEIGHT (m)	DRAINAGE (m ²)	YEAR	1870		
15	6,236				
PURPOSE	Hydropower Recreation				
CREST LENGTH(m)	HAZARD CLASS				
1,500	Low				
APPURTENANCES	TYPE	Uncontrolled			
WIDTH (m)	DISCHARGE (cfs)				
1,500	35,000*				
EMERGENCY SPILLWAY	Overflow				
REMARKS					

Partially breached in several places
*Run of river dam; items estimated

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION	
<u>Developer:</u>	Potomac Edison Co.	<u>Required Minimum Release (cfs) at present:</u>	None	<u>Plant Capacity (kW):</u>	600
<u>FERC Iocket No.:</u>	2515	<u>Annual Generation (MWh):</u>	1588	<u>Mode of Operation:</u>	Run-of-river
<u>Permit/License: issued 1966</u>	Current license	<u>Nearest USGS Gaging Station(s):</u> (approx. 14 miles downstream tributaries enter between station and dam); 01618000 (approx. 10 miles upstream; tributaries enter between station and dam)		<u>Purchaser of Power:</u>	Potomac Edison Co.
<u>Date Operational:</u>	1912	<u>Average Annual Flow (cfs):</u> 6200			
UPSTREAM WATERSHED USAGE		DOWNSTREAM WATERSHED USAGE			
<u>Water Supply:</u>	Shepherdstown Water Works, Washington County Sanitary District	<u>Water Supply:</u>	J. T. Patton and Sons, Inc., Town of Leesburg (VA), Frederick County Water and Sewer Dept., PEPCO (Dickerson Electric Plant), WSSC	<u>Park/Recreation:</u>	C&O National Historic Park, Harper's Ferry, boat launching facilities
<u>Parks/Recreation:</u>	C&O National Historic Park, boat launching facilities, camping				
<u>Dams:</u>	Potomac #4 (MD #78)				
STRUCTURAL INFORMATION			AVAILABLE LITERATURE		
<u>Existing Water Intake Facilities:</u>	Headrace 5200 ft long parallel to river leads from dam to powerhouse; six gates are located at beginning of headrace.		<u>MD OEP maintains data from sampling stations P011595, P011596, and P011830.</u>	<u>USGS maintains data from water quality station 01638500.</u>	
<u>Existing Overflow Structure:</u>	Ungated spillway spans dam.		<u>Academy of Natural Sciences of Philadelphia, 1979.</u>	<u>Davis and Enamait, 1982.</u>	
				<u>Vannote and Sweeney, 1985.</u>	
				<u>Rasin and Brooks, 1982.</u>	

**IDENTIFICATION**

NUMBER 1138

DAM NAME Potomac River Dam #5

POPULAR NAME

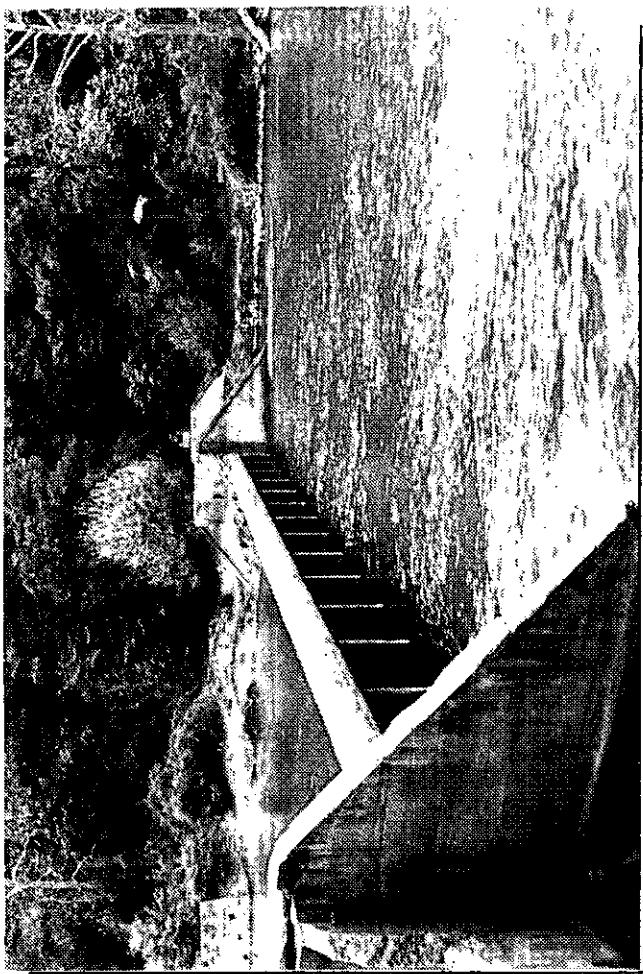
IMPOUNDMENT NAME Potomac River

OWNER National Park Service

WRA PERMITS**DESCRIPTION** TYPE GravityHEIGHT (ft) DRAINAGE (mi^2) YEAR
20 5,100 1850**PURPOSE**
Hydropower
RecreationCREST LENGTH(ft) HAZARD CLASS
811 Low**APPURTENANCES** TYPE Uncontrolled
WIDTH (ft) DISCHARGE (cfs)
711 340,000***EMERGENCY SPILLWAY** Overflow**REMARKS****IMPOUNDING CHARACTERISTICS****NORMAL DEPTH (ft)** 17
SURFACE AREA (acres) 490***CAPACITY**
NORMAL 4,900*
MAXIMUM 44,300***LOCATION** COUNTY Washington
LATITUDE 39°36'.3 LONGITUDE 77°55'.4
NORTH GRID 647000 EAST GRID 539000
RIVER/STREAM Potomac River
QUAD MAP Hedgesville **BASIN** 02140501

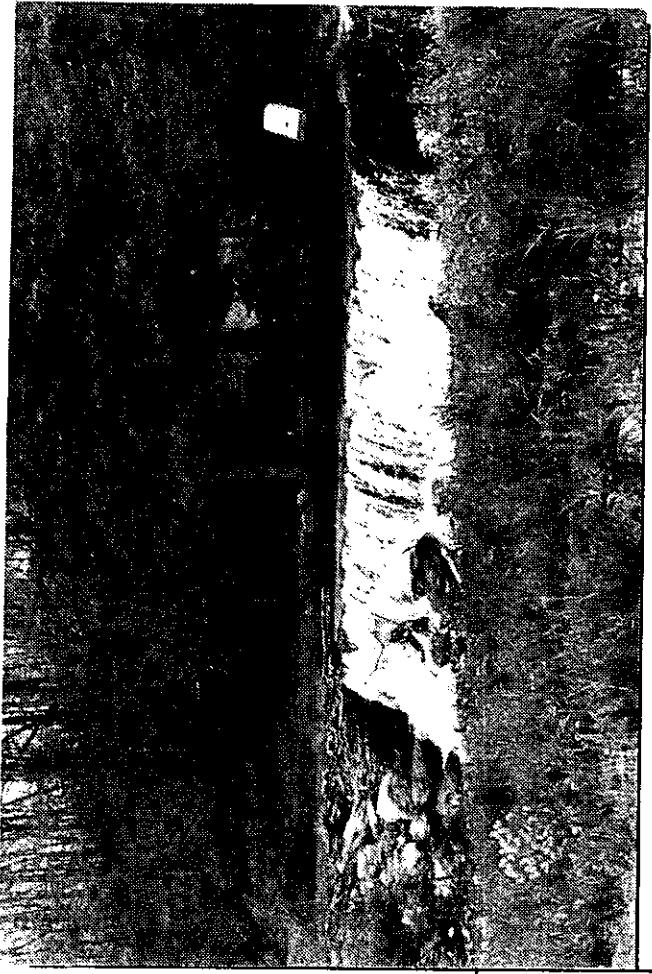
*Run of river dam; items estimated

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION	
<u>Developer:</u>	Potomac Edison Co.	<u>Required Minimum Release (cfs):</u>	None at present	<u>Plant Capacity (kW):</u>	1120
<u>FERC Docket No.:</u>	2517	<u>Annual Generation (MWh):</u>	6851	<u>Mode of Operation:</u>	Run-of-river
<u>Permit/License Issued 1976:</u>	Current license	<u>Nearest USGS Gaging Station(s):</u> (approx. 22 miles upstream)	01613000	<u>Purchaser of Power:</u>	Potomac Edison Co.
UPSTREAM WATERSHED USAGE			DOWNSTREAM WATERSHED USAGE		
<u>Water Supply:</u>	Town of Hancock	<u>Water Supply:</u>	Martin Marietta Corp., Kinash Co., Potomac Edison Co., Shepherdstown Water Works, Washington County Sanitary District	<u>Parks/Recreation:</u>	C&O National Historic Park
<u>Parks/Recreation:</u>	C&O National Historic Park, boat launching facilities, Fort Frederick State Park	<u>Dams:</u>	Williamsport (MD #119), Potomac #4 (MD #78), Potomac #3 (MD #137)		
STRUCTURAL INFORMATION			AVAILABLE LITERATURE		
<u>Existing Water Intake Facilities:</u>	Concrete walled headrace 185 ft long leads from dam to powerhouse.	<u>MD OEP maintains data for sampling station POT2386.</u>			
<u>Existing Overflow Structure:</u>	Ungated spillway 711 ft long.	<u>Martin Marietta Corporation, 1981.</u>			
		<u>Vannote and Sweeney, 1985.</u>			
		<u>Rasin and Brooks, 1982.</u>			



IDENTIFICATION	NUMBER	155
DAM NAME	Union	
POPULAR NAME	Patapsco River	
IMPOUNDMENT NAME	Maryland Department of Natural Resources	
OWNER	WRA PERMITS	
DESCRIPTION	TYPE	Buttress
HEIGHT (ft)	DRAINAGE (mi ²)	YEAR
24	290	1900
PURPOSE	HAZARD CLASS	
Early Industrial Power	Low	
CREST LENGTH (ft)		
355		
APPURTENANCES	TYPE	Uncontrolled
WIDTH (ft)	DISCHARGE (cfs)	
209	80,400*	
EMERGENCY SPILLWAY	Overflow	
REMARKS	Breached beyond right side of spillway, Tropical Storm Agnes, 1972. *Run of river dam; items reflect pre-breach conditions	

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION				
<u>Developer:</u>	Patapsco Hydro Assoc.	<u>Required Minimum Release (cfs):</u>	None at present	<u>Plant Capacity (kW):</u>	600			
<u>FERC Docket No.:</u>	4380	<u>Nearest USGS Gaging Station(s):</u>	(approx. 1.9 miles upstream)	<u>Annual Generation (MWh):</u>	2100			
<u>Permit/License:</u>	Preliminary permit issued 1981; license application pending	<u>Average Annual Flow (cfs):</u>	176	<u>Mode of Operation:</u>	Run-of-river			
<u>Date Operational:</u>	License application pending (previously retired in 1971)	<u>Comments:</u>	20-cfs minimum flow is maintained at USGS station 01589000 by releases from Liberty Dam	<u>Purchaser of Power:</u>	Baltimore Gas and Electric Co.			
UPSTREAM WATERSHED USAGE			DOWNSTREAM WATERSHED USAGE					
<u>Water supply:</u>	Columbia Gas Transmission Corp.	<u>Parks/Recreation:</u>	Patapsco Valley State Park					
<u>Parks/Recreation:</u>	Patapsco Valley State Park	<u>Dams:</u>	Bloede (MD #148), Simkin Industries (MD #134)					
<u>Dams:</u>	Daniels (MD #136), Liberty (MD #3)							
STRUCTURAL INFORMATION			AVAILABLE LITERATURE					
<u>Existing Water Intake Facilities:</u>	A 30-ft-wide earthen canal approximately 1.6 miles long leads from east abutment of dam to a 7-ft-diameter penstock 60 ft long which terminates at powerhouse; there are gates located at the head of the canal and a single gate at the connection of the canal to the penstock.							
<u>Existing Overflow Structure:</u>	Ungated spillway 209 ft long with 14 bays (each 15 ft long) located at center of the dam.							
MD OEP maintains data from sampling stations PAT0285 and PAT0176.								
USGS maintains data from water quality station 01589000.								
Regional Planning Council, 1980.								

**IDENTIFICATION**

NUMBER 230

DAM NAME Gores Mill

POPULAR NAME**IMPOUNDMENT NAME**

OWNER Clarence Lintz

WRA PERMITS**DESCRIPTION**

TYPE Rock and Timber Crib

HEIGHT (ft)
11DRAINAGE (mi^2)
10.7YEAR
1823**PURPOSE**

Hydropower

HAZARD CLASSHAZARD CLASS
51

Significant

IMPOUNDING CHARACTERISTICSNORMAL DEPTH (m)
10SURFACE AREA (acres)
1.0CAPACITY
NORMAL

MAXIMUM

51

Significant

LOCATION

COUNTY Baltimore

APPURTENANCES TYPE Uncontrolled

DISCHARGE (cfs)

51

156

EMERGENCY SPILLWAY Overflow

LATITUDE
3940.8LONGITUDE
7642.0NORTH GRID
673000EAST GRID
884000

RIVER/STREAM Little Falls

QUAD MAP New Freedom

BASIN
02130805**REMARKS**

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION	
<u>Developer:</u>	Clarence Lintz	<u>Required Minimum Release (cfs):</u>	None at present	<u>Plant Capacity (kw):</u>	10
<u>FERC Docket No.:</u>	None	<u>Annual Generation (Mwh):</u>	Not available	<u>Mode of Operation:</u>	Run-of-river
<u>Permit/License:</u>	Unlicensed	<u>Nearest USGS Gaging Station(s):</u>	01582000 (approx. 10 miles downstream; tributaries enter between dam and station)	<u>Purchaser of Power:</u>	Used on site for private residence
<u>Date Operational:</u>	1950's	<u>Average Annual Flow (cfs):</u> 12.4			
UPSTREAM WATERSHED USAGE		DOWNSTREAM WATERSHED USAGE			
<u>Dams:</u>	Little Falls (MD #231)	<u>Parks/Recreation:</u>	fish stocking (including trout)		
		<u>Dams:</u>	Acme (MD #95)		
STRUCTURAL INFORMATION			AVAILABLE LITERATURE		
<u>Existing Water Intake Facilities:</u>	Gated canal about 750 ft in length begins at dam and leads to a 3.5-ft-diameter flume which drops water on a 14-ft-diameter water wheel.		<u>MD OEP maintains data from sampling station LIT0002.</u>		
<u>Existing Overflow Structure:</u>	Ungated spillway spans entire dam.				

IDENTIFICATION

NUMBER 256

DAM NAME Wilson Mill Dam

POPULAR NAME

IMPOUNDMENT NAME Deer Creek

OWNER Ann T. Williams

WRA PERMITS**DESCRIPTION**

TYPE Gravity

HEIGHT (ft.) 4

DRAINAGE (mi²) 180

YEAR 1800

PURPOSE

Recreation

IMPOUNDING CHARACTERISTICS

NORMAL DEPTH (ft.) 4

SURFACE AREA (acres) 3*

CAPACITY NORMAL

MAXIMUM

5*

5*

CREST LENGTH (ft.) 170

HAZARD CLASS Low

APPURTENANCES

TYPE Uncontrolled

WIDTH (ft.)

DISCHARGE (cfs)

1,888*

130

EMERGENCY SPILLWAY Overflow

LOCATION

COUNTY Harford

LATITUDE 3936.0

LONGITUDE 7611.0

NORTH GRID 650000

EAST GRID 1026000

RIVER/STREAM Deer Creek

QUAD MAP Aberdeen

BASIN 02120202

REMARKS

*Run of river dam; items estimated

DEVELOPER INFORMATION		FLOW INFORMATION		ENERGY GENERATION	
<u>Developer:</u> Windon Fifth Partnership	<u>Required Minimum Release (cfs):</u> None at present	<u>Plant Capacity (kW):</u> 22.5	<u>Annual Generation (Mwh):</u> Not available		
<u>FERC Docket No.:</u> None					
<u>Permit/License:</u> Unlicensed	<u>Nearest USGS Gaging Station(s):</u> (approx. 8 miles upstream) <u>Date Operational:</u> Intermittent since 1983 <u>Average Annual Flow (cfs):</u> 277	<u>Mode of Operation:</u> Run-of-river	<u>Purchaser of Power:</u> Used by local residents; excess sold to Conowingo Power Co.		
UPSTREAM WATERSHED USAGE			DOWNSTREAM WATERSHED USAGE		
<u>Parks/Recreation:</u> Deer Creek Park			<u>Parks/Recreation:</u> Susquehanna State Park		
<u>Dams:</u> Noble Mill (MD #232)					
STRUCTURAL INFORMATION			AVAILABLE LITERATURE -		
<u>Existing Water Intake Facilities:</u> An earthen millrace about 1200 ft long leads from dam to power house; along millrace, three overflow canals feed back into Deer Creek. An operational gate is located at the beginning of the millrace at the dam.			<u>MD OEP maintains data from sampling stations DER0015 and DER0124.</u>	<u>Regional Planning Council, 1980.</u>	
<u>Existing Overflow Structure:</u> Ungated spillway spans entire dam; operational Denil fish ladder is located at millrace just downstream of dam.					

